



IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of : Attorney Docket No. 2006_0785A
Yoshihito KAWAMURA et al. : **Confirmation No. 7359**
Serial No. 10/579,971 : Group Art Unit 1793
Filed May 23, 2006 : Examiner Sikyin Ip
HIGH STRENGTH AND HIGH : **Mail Stop: RCE**
TOUGHNESS MAGNESIUM ALLOY AND
METHOD OF PRODUCING THE SAME

RESPONSE TO ADVISORY ACTION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

An RCE was filed in the present application on December 31, 2009, following the issuance of an Advisory Action on December 16, 2009. When the RCE was filed, a Notice of Intent was also filed, indicating that Applicants intend to file a Declaration of the evidence filed December 2, 2009, and a reply to the Examiner's comment in the Advisory Action that the annealed samples of the cited reference have not been shown/tested.

In this regard, Applicants are submitting herewith a Rule 132 Declaration setting forth the evidence filed December 2, 2009.

Concerning the Examiner's position that the annealed samples of the cited reference (apparently referring to the Kawamura et al. reference) have not been shown/tested, Applicants respectfully submit that this is not necessary in the present factual situation. The Examiner's position, as expressed in the Office Action of September 2, 2009, has been that the alloy composition of Kawamura et al. anticipates the claimed composition and the casting step overlaps, and consequently, the long period stacking ordered structure (LPSO) phase would have been inherently possessed by the teachings of the Kawamura et al. reference. The Examiner therefore asserts that the burden is on Applicants to prove that the product of the prior art does not necessarily or inherently possess the characteristics (long period stacking ordered structured

phase) attributed to the claimed product. **Considering the attached Rule 132 Declaration, Applicants take the position that they have satisfied this burden.**

Thus, even if Mg alloys are the same composition, the experimental results in the Declaration prove that presence of an LPSO phase is different for a Mg alloy formed by the single roller melt-spinning method (Kawamura et al.), than for a Mg alloy formed by the casting method (present invention).

In other words, when a Mg alloy casting product and a Mg alloy melt-spun ribbon are the same composition, it is general technical common sense that the phases and crystal structure of the Mg alloy casting product differ from the phases and crystal structure of the Mg alloy melt-spun ribbon. The LPSO phase is formed during solidification in the Mg alloy casting product of the present invention, is **not** formed during solidification in the Mg alloy melt-spun ribbon of the same composition. This is apparent to one of ordinary skill in the art, and is clearly established by the attached Rule 132 Declaration.

Thus, Applicants have now submitted evidence, in verified form, to establish the difference between the product of the present invention and the product of the Kawamura et al. reference. This evidence shows that, in a Mg alloy casting product and a Mg alloy melt-spun ribbon of the same composition (Mg97.25at%-Zn0.75at%-Y2at%), an LPSO phase is formed during solidification in the Mg alloy casting product because the cooling rates are low, but an LPSO phase is **not** formed during solidification in the Mg alloy melt-spun ribbon because of the rapid cooling rates.

In summary, even if Mg alloys have the same composition, the experimental results prove that the presence or absence of LPSO depends on whether the Mg alloy is formed by the single roller melt-spinning method (Kawamura et al.) or by the casting method (present invention). That is, one of ordinary skill in the art would recognize that the presence or absence of LPSO depends on whether the Mg-Zn- (Dy, Ho, Er) alloy is formed by the single roller melt-spinning method or by the casting method. Accordingly, referring again to the Examiner's position as discussed above, Applicants submit that they have satisfied the burden of proving that the Kawamura et al. product does not necessarily or inherently possess the long period stacking

ordered structure phase which is a characteristic of the presently claimed product. For this reason, all of the prior art rejections set forth by the Examiner should be withdrawn.

Respectfully submitted,

Yoshihito KAWAMURA et al.

By 
Michael R. Davis

Registration No. 25,134
Attorney for Applicants

MRD/pth
Washington, D.C. 20005-1503
Telephone (202) 721-8200
Facsimile (202) 721-8250
February 5, 2010